EFL University Students' Self-Regulated Writing Strategies: The Role of Individual Differences

Atik Umamah [1,2] , Niamika El Khoiri [1] , Utami Widiati [1] , Anik Nunuk Wulyani [1]

1 Universitas Negeri Malang, Malang, Indonesia
2 Universitas Islam Malang, Malang, Indonesia

ABSTRACT

Background. Self-regulated learning strategies play an essential role in the success of students' learning of writing. The use of these strategies might be influenced by the student's individual differences.

Purpose. This study was conducted to describe EFL university students' preferences for self-regulated writing strategies. It also examined the different use of self-regulated writing strategies by considering gender, interest in English writing, and writing achievement. Further, it measured the predictive effects of self-regulated writing strategies on the students' writing achievement.

Methods. This research applied a quantitative approach and involved 58 English students. The students were required to respond to a self-report survey using the Self-Regulated Learning Strategy Questionnaire. The students' writing achievement was measured based on their scores in writing an argumentative essay. The data were then analyzed using descriptive statistics, an independent sample t-test, One Way Anova, and multiple regression.

Results. The results uncovered that the overall use of self-regulated writing strategies was at a high level with the social environment strategy dimension on the top rank and motive on the bottom. Further analysis showed that there is no significant difference in the use of self-regulated writing strategies based on gender, interest in English writing, and writing achievement. Meanwhile, multiple regression analysis indicated the predictive effect of self-regulated writing strategies on writing achievement. To this end, teachers need to encourage students to use self-regulated writing strategies more optimally to enhance their writing quality.

Conclusion. EFL students have invested high awareness of using self-regulated writing strategies. Along with this high awareness, students' individual differences such as gender, interest in English writing, and proficiency level might not strongly influence the use of SRW strategies. Though not strong, the use of self-regulated writing strategies contributes to the students' writing quality improvement.

KEYWORDS

frequency of use of self-regulated strategies in writing skills, different use of self-regulated writing strategies, predictive effect of self-regulated writing strategies on writing achievement

INTRODUCTION

Research on the use of self-regulated writing (SRW) strategies, especially in EFL context, is demanded since writing is a complicated skill. EFL students generally deal with some difficulties in writing such as problems in content and organization, grammar, mechanics, and writing style. Some empirical evidence showed that SRW strategies are beneficial to promote students' writing quality (Forbes, 2019; Geres-Smith et al., 2017; Helsel & Greenberg, 2007; Kartika, 2015; Roderick, 2019; Rosário et al., 2019; Teng & Huang, 2019; Zimmerman & Bandura, 1994). SRW strategies fit the nature of writing as a process that consists of three stages (e.g., forethought, performance, and self-reflection) since SRW strategies involve similar phases such as self-planning, self-monitoring, and self-regulation (Hughes et al., 2019). The employment of SRW strategies, therefore, helps stu-

dents improve linguistic, cognitive, and regulation aspects which ameliorate the quality of writing (Cer, 2019). To this end, research on the use of SRW strategies provide teachers with insightful understanding which can be implemented to train their students with the appropriate SRW strategies to cope with the students' writing difficulties.

A few existing studies on SRW strategy issue focused on the intensity of use of SRW strategies. However, the previous findings are still inconclusive. Abadikhah et al. (2018), for example, reported that the frequency of the use of SRW strategies by Iranian students ranges from moderate to slightly high level. The next study conducted by Umamah and Cahyono (2020) revealed that Indonesian university students used SRW strategies at a high level of frequency. It was also reported that high achievers dominantly apply method, performance, and social environment dimensions of SRW strategies in the processes of writing. The limited number of studies and inconclusive findings imply the need to conduct further investigation on the intensity of use of SRW strategies.

Some SRW research highlighted the different use of SRW strategies based on specific individual differences. Most studies reported the difference based on proficiency levels. The previous studies agree that there is a significant difference in the use of SRW strategies by students with high and low levels of proficiency (Abadikhah et al., 2018; Bai & Guo, 2019; Hu & Gao, 2018). The previous investigation grouped the students into two: high and low achievers. Those who were at a moderate level seemed to be ignored. Whereas moderate achievers generally dominated normal classrooms (Yaduvanshi & Singh, 2019) as shown by a classroom normal curve indicating that 25% were high achievers, 25% were low achievers, and the rest 50% were moderate achievers. Therefore, investigating all groups of students is important since it will provide a more comprehensive insight into the strategies used by all students without exception. Meanwhile, other individual differences such as gender and interest in English writing have not sufficiently been studied. It is proven by very limited publications on these issues. In terms of gender, females outperformed males in the use of strategies in general (Valverde Zambrana, 2020), not specifically addressing SRW strategies. Concerning interest, so far no publication on the different use of SRW strategies based on this aspect was found. It indicates that interest was one of the individual differences still neglected in English language teaching and learning research (Tin, 2016), whereas interest is an important aspect to strive for students' learning goals because it affects how they do learning activities and how long they would do those activities (Lepper & Henderlong (2000) as cited in Sansone & Thoman, 2005).

Some previous studies concerned on the correlation between SRW strategy use and certain individual differences. Teng and Huang (2019) reported that age, gender, experience in learning English, the time investment for writing,

topic familiarity, experience in doing an examination, school prestige, and interest in learning English were influential predictors of SRW strategies used by secondary school students in writing an essay. In addition, a growth mindset was found to have a significant correlation with school students' use of SRW strategies (Bai & Guo, 2019). The two existing studies were conducted in school level context; thus, it is essential to investigate similar topic in higher education level. Moreover, university students majoring at English have specific writing courses. Therefore, research on the predictive effect of SRW strategy use on writing achievement will give writing teachers insight into the role of SRW strategies in students' writing performance. To this end, the results of this study can be used as a consideration to integrate SRW strategies into writing instruction.

Based on the aforementioned review, a study on the deployment of SRW strategies at higher education levels by considering gender, interest in English writing, and writing achievement is still demanded. Additionally, investigating the predictive effect of SRW strategy use on writing achievement is essential since it can be used as a predictor and reference in providing an appropriate SRW intervention to help students attain the best writing performance possible. Therefore, this research comes up with three research questions.

(1) What is the profile use of SRW strategies employed by EFL university students?

(2) How do gender, interest in English writing, and writing achievement influence the reported use of SRW strategies?

(3) To what extent do SRW strategies predict EFL students' writing achievement?

The Notion of Self-Regulated Writing (SRW) Strategies

The idea of self-regulated learning (SRL) was proposed by Bandura in the 1980s based on the social cognitive theory covering personal aspects (e.g., cognition and emotions), behavioural aspects, and environmental aspects. In 1994, SRL strategies were introduced in the academic setting (Abadikhah et al., 2018) since regulating motivational, affective, and social aspects is prominent to attain an optimum learning result (Zimmerman & Bandura, 1994). In 1997, the notion of SRL was brought to a more specific scope of learning i.e. it was used as a learning strategy in the writing context. Zimmerman and Risemberg (1997) defined SRL strategies in writing as ideas, feelings, and actions personally initiated by writers to achieve literary goals such as improvement in writing skills and enhancement in the quality of their written text. Some researchers (Brunstein & Glaser, 2011; Reynolds & Perin, 2009) then used self-regulated writ-

ing (SRW) strategies instead of self-regulated learning (SRL) strategies in writing to simplify the term.

Further, Zimmerman (1994) proposed the classification of self-regulated writing (SRW) strategies comprising six dimensions: motive, method, time, physical environment, social environment, and performance. The motive dimension deals with the reasons to learn including setting goals, talking to self, and controlling emotion. The method dimension covers strategies to accomplish a writing task such as summarizing, taking notes, asking questions, practising, and making a visual representation. Time is about how learners manage their time in learning and performing writing tasks. The physical environment dimension describes how learners set their environment to support learning. The social environment dimension is when learners need to seek help from their surroundings. The performance dimension refers to how learners monitor and self-evaluate their learning and recognize self-consequences (as cited in Andrade & Bunker, 2009). The complete dimensions of SRW strategies lead students to be more autonomous. Accordingly, students with good self-regulation are better in their academic achievement (Zimmerman & Bandura, 1994) since they are aware of the qualities of their knowledge, beliefs, motivation, and cognition (Butler & Winne, 1995).

The Role of Self-Regulated Writing (SRW) Strategies in Writing

One of the causes of failure in the writing process is due to ineffective use of learning strategies (Graham et al., 2000). To date, SRW strategies are considered to bridge students with writing difficulties. Some studies confirmed the potential role of SRW strategies to promote the students' writing quality in preschool (Kim & Nor, 2019), at the primary level (Geres-Smith et al., 2017; Helsel & Greenberg, 2007), in secondary schools (Rosário et al., 2019; Teng & Huang, 2019; Zimmerman & Bandura, 1994), and at university level (Abadikhah et al., 2018; Kartika, 2015; L. S. Teng & Zhang, 2018; Umamah & Cahyono, 2020).

Kim and Nor (2019) unveiled that SRW strategies significantly affect preschool learners' self-efficacy and their writing performance. Strong predictors for self-efficacy were found in the use of self-monitoring and controlling, while planning and goal setting were predictors of early writing performance. Based on the survey, the students had a positive perception of the use of SRW strategies. They thought that their writing quality was improved due to the deployment of planning and goal-setting, self-monitoring, and self-evaluation. In addition, Geres-Smith et al. (2017) reported that SRW strategies positively influenced primary school students' writing quality, writing duration, and self-efficacy in composing persuasive text. Students' self-efficacy significantly changed greater after the intervention of self-regulated strategies development (SRSD) was conducted. Furthermore, it was found that SRW strategies and self-ef-

ficacy had a strong correlation though further investigation is still demanded. A similar finding was reported by Helsel and Greenberg (2007). They found that the employment of self-regulated strategy intervention helped struggling writers confront the complexities of different writing tasks.

Improvement in secondary students' quality of writing was reported by Rosário et al. (2019) after implementing SRSD and SRSD combined with story-tool interventions. They compared these interventions with the use of weekly journal activities. Teng and Huang (2019) revealed that SRW strategies (e.g., goal-oriented monitoring and evaluating) promoted the students' writing outcomes. In addition, students with higher regulatory skill levels obtained better writing achievement. Long before the SRW strategies gained prominent consideration, Zimmerman and Bandura (1994) unveiled a direct correlation between self-regulatory efficacy for writing beliefs and the students' perceived efficacy of writing course attainment. An indirect correlation was found between self-regulatory efficacy for writing beliefs and their final grades.

Kartika (2015) found that university students' writing scores improved after the implementation of the SRW strategy intervention. Conducting experimental research, Teng and Zhang (2019) reported a significant improvement after the students were trained in self-regulated strategy intervention. Compared with those who did not get involved in the intervention, the students in the experimental group were reported to be more active in applying the strategies. Using a self-report survey, Abadikhah et al. (2018) uncovered that the intensity of the use of SRW strategies ranged from moderate to slightly high level with strategies in the method dimension as the most frequently used by Iranian university students. In addition, fourth-year students were reported to have greater use of SRW strategies than third-year students, indicating that proficiency level affected the strategy use. Similarly, Umamah and Cahyono (2020) showed that Indonesian university students used SRW strategies at a high level of frequency. The social environment dimension was the most intensively used, while the motive dimension was the lowest. It was also revealed that high achievers dominantly applied the method, performance, and social environment dimensions of SRW strategies in the processes of writing (e.g. planning, execution, and evaluation). These dimensions also helped them deal with writing difficulties in terms of content and organization, grammar, mechanics, and writing style.

Overall, research on SRW strategies has grabbed prominent concern. The previous studies shared similar findings that SRW strategies could improve primary and secondary students' writing performance in composing different text types (e.g. narrative, persuasive, and argumentative). At the higher education level, two experimental studies (Kartika, 2015; Teng & Zhang, 2018) confirmed the positive effect of SRW strategy intervention on students' writing achievement.

In addition, students with different proficiency levels were reported to apply SRW strategies differently (Abadikhah et al., 2018). However, Abadikhah et al. (2018) compared fourth and third-year students in the use of SRW strategies, not addressing the students' specific writing achievement (e.g. high, moderate, and low achievers). Meanwhile, Umamah and Cahyono (2020) focused only on high achievers' strategies, ignoring moderate and low achievers. To this end, more comprehensive research investigating high, moderate, and low achievers is relevant to capture the SRW strategy used by all students with different writing achievements.

Self-Regulated Writing (SRW) Strategies and Individual Differences

Oxford (2017) pointed out that strategy preference was influenced by two factors: learners' multiple personalities and context. To date, the role of students' differences has been investigated by some researchers. Some of them investigated the different use of SRW strategies based on individual differences (Abadikhah et al., 2018; Bai & Guo, 2019; Hu & Gao, 2018; Teng & Huang, 2019), some others were concerned about the correlation between the SRW strategies and the student's individual differences (Bai & Guo, 2018, 2019), and another study dealt with the predictive effects of SRW strategies on writing achievement (Teng & Huang, 2019).

Abadikhah et al. (2018) reported that the use of SRW strategies by Iranian third-year and fourth-year students were different. Fourth-year students used SRW strategies (i.e. method and social environment) more intensively than did the third-year students. Furthermore, Hu and Gao (2018) unveiled differences in the self-regulated strategic writing used by high and low achievers in the ways of resource utilization, in the process of self-regulated writing, and in terms of why and how the two groups imitate and reorganize resources. Bai and Guo (2019) found that three motivational factors (e.g. growth mindset, self-efficacy, and interest in writing) influenced the use of SRW strategy very differently. Furthermore, the use of SRW strategies by primary students is significantly different based on gender, writing proficiency, and grade levels (Bai et al., 2020). A more comprehensive study was conducted by Teng and Huang (2018). They involved a total of 682 secondary students in China and eight moderating variables such as age, gender, experience in learning English, the time allotted to writing, topic familiarity, experience in doing an examination, school prestige, and interest in learning English. The findings proved that those eight individual differences significantly affected the employment of SRW strategies used by secondary school students in writing an argumentative essay. The findings of the previous studies give a broader insight into the fact that many factors might influence the preference for SRW strategies.

With regards to the correlation between SRW strategies and students' individual differences, Bai and Guo (2018), for example, revealed that SRW strategy use positively contributed to primary school students' self-efficacy in writing particularly their self-efficacy in the content aspect. It was also reported that planning and self-monitoring provided the strongest correlation with self-efficacy. In the following year, Bai and Guo (2019) reported that motivational factors (e.g. growth mindset, self-efficacy, and interest in writing) were associated with SRW strategies and the student's writing performance. However, interest had no significant correlation with high achievers' SRW use. They further explained that the growth mindset obtained the strongest and the most significant correlation with high, moderate, and low achievers' use of SRW strategies in writing narrative text.

A study on the predictive effects of SRW strategies on the students' writing achievement showed that SRW strategies could strongly predict the writing achievement of secondary school students. Goal-oriented monitoring strategies were reported to offer the strongest prediction. It means that the more the students employ SRW strategies, the more likely their writing achievement is good. As described above, the previous studies (Bai & Guo, 2018, 2019) did not consider gender as a moderating variable, and only one (Teng & Huang, 2019) reported that gender influenced the preference for SRW strategies. This means that further investigation is required to confirm the finding of Teng and Huang (2019). Moreover, female students were reported to have better writing test scores than their male counterparts (Ong, 2015; Troia et al., 2013) because female students tend to write more complex writing structures and more organized ideas (Waskita, 2008). The difference between males and females in their writing performance might be due to their employment of learning strategies. Therefore, knowing the role of gender in SRW strategy preference is essential since it can be used as a predictor and consideration in providing an appropriate SRW intervention based on gender.

Concerning interest, two studies (Bai & Guo, 2019; Teng & Huang, 2019) dealt with interest in two different contexts: interest in English writing and interest in learning English. Thus, it still leaves room to confirm the existing finding, especially of Bai and Guo (2019), who found an insignificant correlation between interest in English writing and high achievers' SRW strategy use. Moreover, Lepper and Henderlong (2000) proposed that interest played a pivotal role to lead students to strive for their learning goals due to its influence on individuals' choice to do learning activities and how long they will do those activities (as cited in Sansone & Thoman, 2005). A further study to investigate whether there is a significant difference in the use of SRW strategies by EFL students who enjoy and dislike English writing is required.

In terms of writing achievement, a study by Hu and Gao (2018) unveiled that high achievers used more SRW strategies. This finding is not significant enough to declare that

SRW strategy preference is influenced by the students' writing achievement. Moreover, this study compared only two groups: high and low achievers. At this point, the comparison among high, moderate, and low achievers will provide a more fruitful insight. Another important issue that is neglected is the predictive effects of SRW strategies on students' writing achievement. Most studies claimed that SRW strategies can improve the students' writing quality; however, they did not specify how much the contribution of these strategies. One of the limited studies concerning the contribution of SRW strategies on writing achievement revealed the strong predictive effects of SRW strategies on writing achievement. However, this study was carried out in a secondary school context. The question to arise is whether a similar finding will be obtained if the study is conducted in higher education.

METHODS

Research Design

This research applied a quantitative approach. A descriptive quantitative design was used to describe the SRW strategies used by EFL university students. Further, the ex-post-facto design was adopted to examine the difference in SRW strategy preference based on gender, interest in English writing, and writing achievement. Finally, a correlational design was used to see to what extent SRW strategies predict the students' writing achievement.

Participants

This study involved English education students from one of the private universities in Malang, Indonesia. The students were selected based on convenience sampling; only those who agreed to join the survey study were involved in this research. A total of 58 students agreed to participate in the survey. They were in the second year of their four-year undergraduate study and had taken an essay writing course in the previous semester. Of 58 students, 15 students were male whereas 43 were female students. A total of 45 stu-

dents were interested in English writing, while 13 students said that they were not interested in English writing. Based on the student's writing scores, 30 students were categorized as high achievers, 21 students were categorized as moderate achievers, and 7 students were categorized as low achievers.

Instruments

This research drew on in-depth data from a 60-item Self-Regulated Learning Strategy Questionnaire (SRLSQ) with a 5-point Likert scale adopted by Abadikhah et al. (2018). It was required to gather profound information and generate ideas related to the strategies used in six dimensions (motive, method, time, performance, physical environment, and social environment). Detailed questionnaire distribution is in Table 1.

The questionnaire consisted of three parts. The first part of the questionnaire was the respondents' agreement page. The next part was about respondents' demographic information such as full name, gender, and interest in writing. The main part is the 60-item questionnaire with a 5-Likert scale (strongly disagree '1' to strongly agree '5'). To ensure that the respondents fully understood each item and to avoid bias, the questionnaire was translated into Indonesian. The translated questionnaire was validated by two experts in English language teaching. The validated questionnaire was then tried out on twenty students. The data from the try-out were then analyzed using SPSS 26 to check their validity and reliability. The result of the analysis showed that the questionnaire was valid and had high reliability as indicated by the overall Cronbach's alpha value of 0.946. More specifically, the reliability of the motive dimension was .784, the method dimension was .782, the time dimension was .794, the performance dimension was .937, the physical environment dimension was .861, and the social environment dimension was .620. This indicates that all of the Cronbach's alpha values were > .60 meaning that all of the items in each dimension were reliable and consistent. Therefore, the questionnaire was ready to use as the instrument of this study. The data obtained from the student's responses to

Table 1

Distribution of Self-Regulated Learning Strategy Questionnaire (SRLSQ)

Dimensions	Scales	Number of items
Motive	Goal-setting, self-efficacy	14
Method	Task strategies	10
Time	Time-management	8
Performance	Self-evaluation, self-consequence	17
Physical environment	Environmental structuring	5
Social environment	Help-seeking	6
Total		**60**

the questionnaire were interpreted and classified into three levels: high (means of 3.5-5.0), moderate (means of 2.5-3.4), and low (means of 1.0-2.4) based on Oxford and Burry-Stock (1995).

In addition, the student's interest was assessed based on their response to the questionnaire asking whether they like writing in English or not. They responded to this item by selecting the 'Like' or 'Dislike' button. Another data was obtained from the students' argumentative essay scores. Due to time constraints and the uncontrolled situation in the early phase of the Covid-19 Pandemic when the data was collected, it was impossible to conduct the writing test. Thus, we used the available writing scores from the writing teachers. The writing task was assessed only by the teacher of each class. Since the writing text was already handed out to the students, it was difficult to have inter or intra-rater reliability. This condition might influence the results of this study. Based on the scores, the students were grouped into three: high, moderate, and low achievers. The categorization of these groups is based on the assessment standard of the university where the data were collected. The categorization is presented in Table 2.

Table 2

Categorization of Students' Writing Achievement

Score	Grade	Category
80-100	A	High achievers
70-79	B	Moderate achievers
0-69	C	Low achievers

Procedure

Before the questionnaire distribution, a letter of consent was sent to the head of the English department to allow the students to get involved in this research as participants. The participants' agreement to join the survey was obtained by asking them to click the 'Agree' button on the first page of the questionnaire, which was distributed online. Next, they were assigned to respond to the demographic information part. To explore the use of self-regulated writing (SRW) strategies, the participants responded to the Self-Regulated Learning Strategy Questionnaire (SRLSQ). Due to the outbreak of Covid-19, the students had to learn fully from home, and it was something new in the Indonesian context. Some adjustments were in progress when the data of this research were collected. Thus, it was difficult for researchers to conduct both offline and online writing tests. Therefore, the student's writing achievement was obtained from the students' scores on argumentative essay assignments. The students were asked to write an argumentative essay with a free topic. Since the lecturers used the writing process approach, the students were assigned to finish the essay in two weeks. After some revisions, the writing texts were assessed by the lecturer using the writing scoring rubric consisting

of content, organization, discourse, syntax, vocabulary, and mechanics (Brown, 2007). Based on the obtained scores, the students were grouped into three: high, moderate, and low achievers.

Analysis

The data from the questionnaire were analyzed based on the computation of descriptive statistics. The analysis of the mean score was done for each dimension (a total of six dimensions). Meanwhile, to see the difference in the preference of SRW strategies based on gender and interest in English writing, an analysis using an independent sample t-test was performed. One Way ANOVA was used to know the difference in strategy use based on the students' writing achievement. Finally, a multiple regression analysis was applied to see the extent to which SRW strategies might predict the students' writing achievement.

RESULTS

The Reported Use of Self-regulated Writing (SRW) Strategies

Analysis using descriptive statistics (Table 3) describes the frequency of use of SRW strategies based on the student's responses to the survey. Based on the table, the overall use of self-regulated writing (SRW) strategies is at a high level (3.63) meaning that the students use the SRW strategies frequently. Accounting for 4.15, the social environment is reported to be the most frequently used dimension indicating that students tend to seek help from their surroundings to deal with writing problems. Meanwhile, the motive dimension is the least used strategy (3.03) showing that students rarely set learning goals and lack self-efficacy in writing.

Further, Table 4 presents the SRW strategy preference by high, moderate, and low achievers. The three groups of students apply social environment the most frequently (4.27, 4.02, and 4.05). It means that regardless of their achievement, students generally use help-seeking strategies when having difficulties in learning writing. Motive is the least used strategy dimension used by high achievers (3.09) and moderate achievers (2.88). This indicates that high and moderate achievers rarely set learning goals and lack self-efficacy. Meanwhile, low achievers deploy the performance dimension the least frequently (3.24) showing the minimum use of self-evaluation and self-consequence strategies.

The Difference in the Use of Self-Regulated Writing (SRW) Strategies

The results of the independent sample t-test (Table 5) indicate an insignificant difference in the deployment of SRW strategies based on gender and interest in English writing. A

Table 3

The Reported Use of Self-Regulated Writing (SRW) Strategies (Overall)

Strategy Dimensions	Mean	Std. Deviation	Rank
Social Environment	4.15	.65	1 (High)
Performance	3.87	.65	2 (High)
Method	3.81	.63	3 (High)
Physical Environment	3.63	1.00	4 (High)
Time	3.29	.60	5 (Moderate)
Motive	3.03	.64	6 (Moderate)
Overall	3.63		High

Table 4

The Reported Use of Self-Regulated Writing (SRW) Strategies Based on Writing Achievement

	Time		Motive		Method		Performance		Social Environment		Physical Environment		Overall
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	
High Achievers	3.29	.54	3.09	.64	3.77	.62	3.86	.55	4.27	.57	3.88	.93	3.70
Moderate Achievers	3.22	.71	2.88	.68	3.88	.73	3.84	.80	4.02	.77	3.38	.96	3.52
Low Achievers	3.54	.45	3.24	.44	3.80	.41	4.04	.58	4.05	.52	3.40	1.30	3.51

significant difference (.008) is found only in the employment of the social environment based on the student's interest in English writing. Further analysis based on the means indicates that students who are not fond of writing in English apply strategies in the social environment dimension more frequently (4.67) than those who have a great interest in English writing (4.17). This result implies that students who have less interest in English writing are more likely to seek help when facing problems in learning writing, while those with high interest seem to be able to deal with the problems more independently.

Table 6 presents the result of One Way ANOVA, showing that there is no significant difference in the use of SRW strategies based on the students' writing achievement (e.g., high, moderate, and low achievers). In other words, regardless of their writing achievement, EFL students generally apply SRW strategies in all six dimensions. This result indicates that the use of SRW strategies is crucial for all students including those with high, moderate, and low achievement.

The Predictive Effects of Self-Regulated Writing (SRW) Strategies on Writing Achievement

Analysis using multiple regression was performed to see the extent to which self-regulated writing (SRW) strategies predict the students' writing achievement.

Table 7 displays the results of the multiple regression analysis to know the predictive effects of self-regulated writing (SRW) strategies on writing achievement. It is found that the variance is only 3.3% with $p = .940$ ($p > .05$), showing SRW strategies are very weak predictors of writing achievement. Overall, the predictive effects are insignificant. The strongest predictor is in the dimension of social environment ($\beta = .267$), followed by time ($\beta = .060$), motive ($\beta = .004$), and physical environment ($\beta = .001$). Meanwhile, method and performance dimensions are not identified as significant predictors of writing performance. This result shows that the use of SRW strategies can be used to predict students' writing achievement. The more frequently they use SRW strategies, the more likely their writing achievement is to improve. Considering the weak predictive effect, there might be other factors that influence the students' writing achievement.

DISCUSSION

Based on the statistical analysis, the overall use of self-regulated writing (SRW) strategies is at a high level. This finding confirms the earlier findings (Abadikhah et al., 2018; Umamah & Cahyono, 2020). These consistent findings are indicators that EFL students either consciously or subconsciously recognize the paramount importance of applying SRW strategies in learning writing skills. They use the SRW strategies in all six dimensions (e.g., time, motive, method, performance, social environment, and physical environ-

Table 5
The Different Use of SRW Strategies based on Gender and Interest

Categories	Gender			Interest		
	t	df	Sig. (2-tailed)	t	df	Sig.(2-tailed)
Time	.061	56	.952	.428	23	.673
Motive	.070	56	.944	-.421	23	.677
Methods	-.363	56	.718	-1.296	23	.208
Performance	.495	56	.622	-1.664	23	.110
Social Environment	-.477	56	.635	-2.889	23	.008
Physical Environment	.146	56	.884	-1.643	23	.114

Table 6
The Different Use of SRW Strategies Based on Writing Achievement

		Sum of Squares	df	Mean Square	F	Sig.
Time	Between Groups	.546	2	.273	.748	.478
	Within Groups	20.062	55	.365		
	Total	**20.608**	**57**			
Motive	Between Groups	.929	2	.465	1.147	.325
	Within Groups	22.284	55	.405		
	Total	**23.213**	**57**			
Methods	Between Groups	.157	2	.079	.188	.829
	Within Groups	23.024	55	.419		
	Total	**23.182**	**57**			
Performance	Between Groups	.225	2	.112	.258	.773
	Within Groups	23.957	55	.436		
	Total	**24.182**	**57**			
Social Environment	Between Groups	.924	2	.462	1.094	.342
	Within Groups	23.222	55	.422		
	Total	**24.146**	**57**			
Physical Environment	Between Groups	3.478	2	1.739	1.778	.178
	Within Groups	53.786	55	.978		
	Total	**57.264**	**57**			

Table 7
The Predictive Effects of Self-Regulated Writing Strategies on Writing Achievement

Predictor	B	SE	β
Time	1.561	5.121	.060
Motive	.107	4.033	.004
Method	-1.643	5.640	-.067
Performance	-5.230	5.620	-.218
Social Environment	6.404	5.573	.267
Physical Environment	.013	2.473	.001

ment). It is in agreement with Oxford (2003), who reported that the use of learning strategies was useful if the students linked their strategies to other relevant strategies to accomplish a certain task. In essence, explicit SRW strategy training is demanded to guide the students to use the strategies more appropriately and effectively so that the students are more self-regulated, strategic, and more resourceful in dealing with various writing tasks (Lam, 2014).

Furthermore, similar to the finding of the earlier research (Umamah & Cahyono, 2020), the social environment is reported to be the most dominant dimension. The frequent use of social environments shows that EFL students often seek help to accomplish their writing tasks. It is congruent with the finding of Yot-Domínguez and Marcelo (2017) that EFL university students generally required support from the social environment. The students might ask for help from peers and make use of available learning resources (offline and online resources). Moreover, a current research finding unveiled that online resources could facilitate self-regulated writing (Umamah & Cahyono, 2022). However, a different finding was presented by Papamitsiou and Economides (2019), who reported that help-seeking strategies negatively affected the students' learning autonomy. The possible reason for this is that relying too much on social support especially peers might hinder the students from being independent.

Meanwhile, the least use of strategies in the motive dimension is in agreement with the previous findings (Abadikhah et al., 2018; Umamah & Cahyono, 2020). These findings are evidence that the students are still not able to set goals. Goal setting is the forethought phase of the writing process (Hughes et al., 2019) that is necessary to direct the learning process to achieve personal learning goals (Kizilcec et al., 2017). Moreover, goal-oriented monitoring and evaluating (GME) strategies are considered to promote the students' writing outcomes (Teng & Huang, 2019). The minimum use of the motive dimension also reflects that the students, in general, do not have high self-efficacy that they have good ideas to write and can produce high-quality content (e.g., introduction, body, and conclusion). Self-efficacy is an essential factor in learning writing (Bruning et al., 2013) since it has a potential interaction with language gains (Yabukoshi, 2018). Previous studies reported that self-efficacy positively affected writing achievement (Cer, 2019; Rosário et al., 2019). Therefore, the students need to be encouraged to optimize the use of strategies in the motive dimension by implementing SRW strategy intervention.

Concerning writing achievement, all three student groups (e.g., high, moderate, and low achievers) employ strategies in the social environment dimension the most frequently. This finding indicates that all the students often seek help, showing their positive acceptance of collaborative learning to deal with the complexities of writing tasks (Kang & Lee, 2019; McDonough et al., 2018). The least use of strat-

egy dimension by high and moderate achievers is motive, showing that they still cannot maximize their goal setting and self-efficacy in writing, which are not directly related to the content of the writing. Meanwhile, low achievers very rarely use strategies in the performance dimension. This depicts that low achievers fail to make use of the performance dimension dealing with self-evaluation including feedback. Feedback is a fundamental and determining factor in self-regulated learning (Butler & Winne, 1995). According to Kusumaningrum et al. (2019), peer feedback is important to improve students' writing quality. Further, Park (2018) reported that a combination of teacher and peer feedback was more helpful and meaningful. Thus, low achievers need to be encouraged to make use of feedback, especially from their peers.

Overall, this study unveils an insignificant difference in the use of SRW strategies based on gender, interest in English writing, and writing achievement. In other words, EFL students, generally, apply all six dimensions of SRW strategies regardless of gender, interest in English writing, and writing achievement. In terms of gender, this finding is a contrast to the reports that female secondary students and students with a greater interest in learning English deploy SRW strategies more frequently (Teng & Huang, 2019) and female primary students outperform their male counterparts (Bai et al., 2020). Different education levels might be the reason for the contrasting findings. Further, this current study found a significant difference in the use of strategies in the social environment dimension based on the students' interest in English writing. Students who do not like writing in English employ more strategies in the social environment dimension. This implies that the students who are not interested in English writing need more help to deal with their problems in essay writing. It is reasonable since most of the students (8 out of 13) who have no interest in writing, in this research context, have relatively poor writing achievement. It is supported by Bai and Guo (2019) reporting that interest is significantly correlated with moderate and low achievers, not with high achievers' SRW strategy use. In this sense, motivation is what low achievers need to have a greater interest in English writing which can lead them to better use SRW strategies, which in turn, improve their writing skills. This current study also unveils that there is no significant difference in the use of SRW strategies based on the students' writing achievement. Conversely, previous research findings reported that high achievers use strategies differently from low achievers (Bai & Guo, 2019; Hu & Gao, 2018). Moreover, it is reported that fourth-year students deployed SRW strategies more intensively than third-year students. This depicts that those with more knowledge and experience in writing tend to be more self-regulated. In general learning strategy research, it is also found a linear relationship between proficiency level and strategy use: the higher the students' proficiency level, the more strategies they employed (Alfian, 2018).

The finding that SRW strategies are very weak predictors of students' writing achievement is interesting since it is not consistent with the previous studies (Kim & Nor, 2019; Teng & Huang, 2019). The strongest predictor is found in the social environment dimension, reflecting that peers and learning resources play a pivotal role in promoting the students' writing achievement. This finding also reflects that some other factors might contribute more to the students' writing achievement (e.g., teachers, teaching method, test system, exposure to reading and writing practices, classroom size) (Fareed et al., 2016). Teachers, in this respect, serve as a key factor to provide the students with effective writing activities. The diverse finding of this research from the previous ones might be explained by the different subjects who participated in the research. The previous studies involved preschool children and secondary school students, while this current research invited university students to be the participants.

This study has some limitations which prevent it from generalizing. First, the writing score was obtained from the student's previous essay writing assignment and was assessed by the teacher only. The next limitation lies in the instrument to assess the students' interest because it only asked whether they like writing in English or not. Additionally, the number of students who participated in this study based on gender and interest was not equally distributed. Finally, this research involved a small sample size from one university. The abovementioned limitations might influence the validity and reliability of the data. Therefore, future researchers are suggested to conduct a writing test by considering inter or intra-rater reliability, using a specific questionnaire that can provide more comprehensive information to assess the students' interest, and involving groups of students with equal numbers as well as a larger sample size involving students from some universities.

CONCLUSION

This research sheds light on the EFL students' awareness of the importance of self-regulated writing (SRW) strategies to help them cope with the complexities of writing tasks. It is proven by the high intensity of use of the overall SRW strategies. Besides, this research comes up with a new paradigm that individual differences such as gender, interest in English writing, and proficiency level might not strongly influence the use of SRW strategies along with the increase in the student's awareness of the promising role of SRW strategies. Although this research fails to provide a piece of empirical evidence that SRW strategies strongly predict students' writing achievement, these strategies have been proven to contribute to the improvement of students' writing quality. As a result, teachers should train students with self-regulated writing strategies to enhance their writing quality.

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DECLARATION OF COMPETING INTEREST

None declared.

AUTHOR CONTRIBUTION STATEMENT

Atik Umamah: Conceptualization, Data Curation, Formal Analysis, Investigation, Methodology, Resources, Visualization, Writing-original draft.

Niamika El Khoiri: Funding Acquisition, Project Administration, Supervision, Writing-review and editing.

Utami Widiati: Conceptualization, Formal Analysis, Methodology, Project Administration, Resources, Supervision, Validation, Writing-original draft.

Anik Nunuk Wulyani: Project Administration, Supervision, Writing-review and editing.

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